Name: _____ Date: _____

Snowflake Laboratory

Explore • Discover • Design

Snowflakes are tiny works of science and art! Learn why they form six-sided structures, then create your own scientifically inspired designs.

Did You Know?

- Snowflakes form high in cold clouds when water vapor freezes around tiny particles.
- Water molecules naturally connect in a six-sided (hexagon) pattern, which is why snowflakes have six arms.
- No two snowflakes are exactly the same!

1 The Science Behind Six Sides

Water molecules arrange themselves in a hexagon shape when they freeze. As more water molecules attach, the hexagon grows into a snowflake with six matching arms.



2 Look Closely

Snowflakes can have different patterns, but they always have six arms.



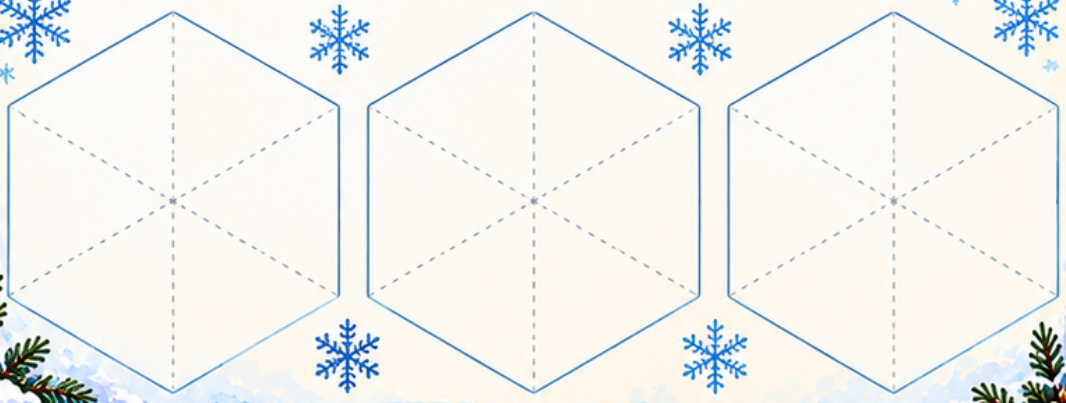
3 Notice the Patterns

Here are a few real snowflake shapes. What patterns do you see?



4 Design Your Own Snowflakes

Use what you learned to create your own snowflake designs. Make sure each snowflake has six arms. You can use the grid dots to help!



Challenge Ideas

- [ ] Make a simple design with straight lines.
- [ ] Try a design with curves and points.
- [ ] Use shapes like diamonds, triangles, or dots.
- [ ] Create a detailed design with extra patterns.
- [ ] Make all six arms the same (mirror image).
- [ ] Can you design a snowflake that looks like something else (a star, a flower, or a special symbol)?

5 Think and Reflect

Why do you think six arms might be helpful for a snowflake?

What pattern do you like best? Why?

What was the most interesting thing you learned about snowflakes?

Good Tidings, where reading feels like fun.